

EDITORIAL INDEX

COVERS

AEL Industries Inc.

"The Ambidextrous Antenna," No. 9, p. 142.

Analog Devices

"IF ICs Offer 3 V Operation for Digital and Analog Cellular Standards," No. 10, p. 144.

Hewlett-Packard Co.

"Performance Enhancements for Demanding Network Analyzer Measurements," No. 6, p. 116.

Loral Microwave-Narda

"A Digital Hand-Held Meter for RF Strength Testing," No. 12, p. 92.

M/A-COM Inc., Semiconductor Division

"HMIC: A Silicon Microwave Integrated Circuit Process," No. 1, p. 136.

M/A-COM Inc.

"The Evolution of Base Station Antennas," No. 11, p. 124.

Microwave Power Devices Inc.

"A 100 to 500 MHz Susceptibility Test Amplifier," No. 5, p. 107.

Millitech Corporation

"Crash Avoidance FLR Sensors," No. 7, p. 122.

Noise Com Inc.

"Earth Station and Cell-site Monitoring Systems," No. 3, p. 106.

PST Inc.

"High Power Feed Forward Amplification Systems," No. 2, p. 128.

TriQuint Semiconductor

"A Flexible and Cost Effective 2.4 GHz ISM Transceiver Chip Set," No. 8, p. 102.

COMPONENTS/SUBSYSTEMS

Gerlack, Richard Z.

"Small Ceramic Windows for Large Waveguides," No. 11, p. 110.

Jaisson, Denis and Franck Bachelot

"An Oscillator with a Gunn Diode Integrated in a Dielectric Resonator," No. 2, p. 117.

Madden, Joseph M.

"Practical High Temperature Superconductor Filters," No. 10, p. 100.

Madjar, Asher and Moshe Musia

"A x4 Low Loss Microstrip 38.5 to 40 GHz Subharmonic Mixer," No. 6, p. 107.

O'Connell, Timothy, Patrick J. Murphy and Aidan Murphy

"A Direct I/Q Modulator at Microwave Frequencies using GaAs MESFETs," No. 10, p. 62.

Oseawa, Masataka, Yukikazu Arai, Yukihiko Ando, Takeshi Wada and Michael Alan Stein

"A Superminimized Double-Balanced SMT Mixer-Modulator," No. 2, p. 90.

Razban, T., H. Frances, B. Robert and A. Papernik

"A Compact Oscillator Integrated in a Microstrip Patch Antenna," No. 2, p. 110.



VOLUME 37 1994

INSTRUMENTS/MEASUREMENTS

Anderson, Chris S. and Michael C. Zari

"Variable Delay Lines Offer Continuously Variable Range Selection for Radar Target Simulators," No. 4, p. 246.

Ballo, David and Joe Gorin

"Adjacent Channel Power Measurements in the Digital Wireless Era," No. 7, p. 74.

Brandt, Hartmut

"Spectrum Analyzers: Precision Test Instruments," No. 3, p. 98.

Engelson, Morris and Cliff Morgan

"Task Oriented Spectrum Analysis with Two GPIB Ports," No. 3, p. 90.

Gallego, Juan Daniel and Alberto Barcia Cancio

"Determination of Noise Parameters of Low Noise Microwave IF Amplifiers," No. 2, p. 74.

Ham, Ronald E.

"Oscillator Noise Measurement," No. 11, p. 77.

Olney, Doug

"The Effect of Adapters on Vector Network Analyzer Calibrations," No. 11, p. 60.

Pollard, Roger D.

"Compensation Technique Improves Measurements for a Range of Mechanically Compatible Connectors," No. 10, p. 91.

Steiner, H.J., T. Fritzell and A.H.I. McCormick

"A High Precision Outdoor Cylindrical Near-Field Test Facility," No. 1, p. 128.

Tzironis, Christos

"Calibration of Network Analyzers for Tuner Characterization," No. 11, p. 116.

Wei, C.J., Y.A. Tkachenko and J.C.M. Hwang

"Noninvasive Waveform Probing for Nonlinear Network Analysis," No. 2, p. 122.

Wong, Ken and Roopinder S. Grewal

"Microwave Electronic Calibration: Transferring Standards Lab Accuracy to the Production Floor," No. 9, p. 94.

mm-WAVE

Ray, U.C. and A.K. Gupta

"Intrapulse Frequency Variation in a W-Band Pulsed IMPATT Diode," No. 4, p. 238.

DEVICES

Caverly, Robert H.

"Distortion in GaAs MESFET Switch Circuits," No. 9, p. 106.

Rodriguez Tellez, J., S. Loredo and R.W. Clarke

"Self-Heating in GaAs FETs: A Problem?" No. 9, p. 76.

MIC/MMIC

Goldfarb, Marc E.

"A MMIC Quadrature IF Mixer in L-Band for Use in Portable, Wireless Networking Applications," No. 8, p. 24.

[Continued on page 100]

EDITORIAL INDEX

COVERS

AEL Industries Inc.

"The Ambidextrous Antenna," No. 9, p. 142.

Analog Devices

"IF ICs Offer 3 V Operation for Digital and Analog Cellular Standards," No. 10, p. 144.

Hewlett-Packard Co.

"Performance Enhancements for Demanding Network Analyzer Measurements," No. 6, p. 116.

Loral Microwave-Narda

"A Digital Hand-Held Meter for RF Strength Testing," No. 12, p. 92.

M/A-COM Inc., Semiconductor Division

"HMIC: A Silicon Microwave Integrated Circuit Process," No. 1, p. 136.

M/A-COM Inc.

"The Evolution of Base Station Antennas," No. 11, p. 124.

Microwave Power Devices Inc.

"A 100 to 500 MHz Susceptibility Test Amplifier," No. 5, p. 107.

Millitech Corporation

"Crash Avoidance FLR Sensors," No. 7, p. 122.

Noise Com Inc.

"Earth Station and Cell-site Monitoring Systems," No. 3, p. 106.

PST Inc.

"High Power Feed Forward Amplification Systems," No. 2, p. 128.

TriQuint Semiconductor

"A Flexible and Cost Effective 2.4 GHz ISM Transceiver Chip Set," No. 8, p. 102.

COMPONENTS/SUBSYSTEMS

Gerlack, Richard Z.

"Small Ceramic Windows for Large Waveguides," No. 11, p. 110.

Jaisson, Denis and Franck Bachelot

"An Oscillator with a Gunn Diode Integrated in a Dielectric Resonator," No. 2, p. 117.

Madden, Joseph M.

"Practical High Temperature Superconductor Filters," No. 10, p. 100.

Madjar, Asher and Moshe Musia

"A x4 Low Loss Microstrip 38.5 to 40 GHz Subharmonic Mixer," No. 6, p. 107.

O'Connell, Timothy, Patrick J. Murphy and Aidan Murphy

"A Direct I/Q Modulator at Microwave Frequencies using GaAs MESFETs," No. 10, p. 62.

Oseawa, Masataka, Yukikazu Arai, Yukihiko Ando, Takeshi Wada and Michael Alan Stein

"A Superminimized Double-Balanced SMT Mixer-Modulator," No. 2, p. 90.

Razban, T., H. Frances, B. Robert and A. Papernik

"A Compact Oscillator Integrated in a Microstrip Patch Antenna," No. 2, p. 110.



VOLUME 37 1994

INSTRUMENTS/MEASUREMENTS

Anderson, Chris S. and Michael C. Zari

"Variable Delay Lines Offer Continuously Variable Range Selection for Radar Target Simulators," No. 4, p. 246.

Ballo, David and Joe Gorin

"Adjacent Channel Power Measurements in the Digital Wireless Era," No. 7, p. 74.

Brandt, Hartmut

"Spectrum Analyzers: Precision Test Instruments," No. 3, p. 98.

Engelson, Morris and Cliff Morgan

"Task Oriented Spectrum Analysis with Two GPIB Ports," No. 3, p. 90.

Gallego, Juan Daniel and Alberto Barcia Cancio

"Determination of Noise Parameters of Low Noise Microwave IF Amplifiers," No. 2, p. 74.

Ham, Ronald E.

"Oscillator Noise Measurement," No. 11, p. 77.

Olney, Doug

"The Effect of Adapters on Vector Network Analyzer Calibrations," No. 11, p. 60.

Pollard, Roger D.

"Compensation Technique Improves Measurements for a Range of Mechanically Compatible Connectors," No. 10, p. 91.

Steiner, H.J., T. Fritzell and A.H.I. McCormick

"A High Precision Outdoor Cylindrical Near-Field Test Facility," No. 1, p. 128.

Tzironis, Christos

"Calibration of Network Analyzers for Tuner Characterization," No. 11, p. 116.

Wei, C.J., Y.A. Tkachenko and J.C.M. Hwang

"Noninvasive Waveform Probing for Nonlinear Network Analysis," No. 2, p. 122.

Wong, Ken and Roopinder S. Grewal

"Microwave Electronic Calibration: Transferring Standards Lab Accuracy to the Production Floor," No. 9, p. 94.

mm-WAVE

Ray, U.C. and A.K. Gupta

"Intrapulse Frequency Variation in a W-Band Pulsed IMPATT Diode," No. 4, p. 238.

DEVICES

Caverly, Robert H.

"Distortion in GaAs MESFET Switch Circuits," No. 9, p. 106.

Rodriguez Tellez, J., S. Loredo and R.W. Clarke

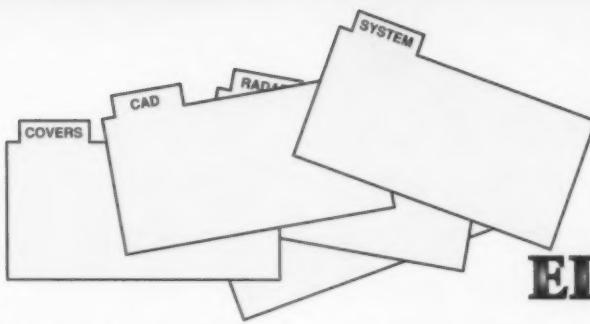
"Self-Heating in GaAs FETs: A Problem?" No. 9, p. 76.

MIC/MMIC

Goldfarb, Marc E.

"A MMIC Quadrature IF Mixer in L-Band for Use in Portable, Wireless Networking Applications," No. 8, p. 24.

[Continued on page 100]



EDITORIAL INDEX

Lovelace, David, Natalino Camilleri and George Kammel

"Silicon MMIC Inductor Modeling for High Volume, Low Cost Applications," No. 8, p. 60.

Nabiocheck, Steven and Stephen Ems

"A 5 GHz Sampling Oscilloscope Front-End Based on HBTs," No. 4, p. 261.

Tran, M. and C. Nguyen

"Wideband Bandpass Filters Employing Broadside-Coupled Microstrip Lines for MIC and MMIC Applications," No. 4, p. 210.

SYSTEMS

Daniels, David J.

"Surface Penetrating Radar for Industrial and Security Applications," No. 12, p. 68.

Li, Hua, Anthony J. Illingworth and Jon Eastment

"A Simple Method of Dopplerizing a Pulsed Magnetron Radar," No. 4, p. 226.

SPECIAL REPORTS

Barton, David K.

"The 1993 Moscow Air Show," No. 5, p. 24.

Carr, Kenneth L.

"Microwave Heating of Physiologic Fluids," No. 7, p. 24.

de Vitry, Jérôme and Saverio Giacconi

"Technological Innovation and Market Evolution Lead the Way to SDH Radio," No. 10, p. 138.

Edwards, Terry

"The European Microwave Industry: Current Markets and Future Prospects," No. 12, p. 24.

Ellowitz, Howard I.

"1994 US GaAs Foundry Survey Results," No. 8, p. 82.

Herskovitz, Don

"Global Positioning System Receivers," No. 9, p. 66.

Hillson, Jack

"Continuous Flow Manufacturing," No. 10, p. 106.

Howe, Jr., Harlan

"The Old Order Changeth...," No. 3, p. 24.

Jacobson, Robert E. and James Lawson

"Unwarranted Investigations: Rules to Live By," No. 10, p. 119.

Komiya, Megumi

"Fixed Wireless Local-Loop System: A New Recipe for Success?" No. 6, p. 24.

Schoenberger, James and David Gillick

"Personal Communication by Satellite: A European Policy Perspective," No. 5, p. 64.

Sheinwald, Jesse

"MMIC Compatible Bandpass Filter Design: A Survey of Applicable Techniques," No. 3, p. 26.

Yacoubi, Saladin

"An Electronic Toll and Traffic Management System," No. 7, p. 64.

Zelubowski, Steven A.

"Low Cost Antenna Alternatives for Automotive Radars," No. 7, p. 54.

PRODUCT FEATURES

Advantech Microwave Technologies Inc.

"High Power Ku-Band GaAs FET Amplifiers," No. 8, p. 113.

Analog Devices Inc.

"A Low Distortion, High Performance 500 MHz Monolithic Mixer," No. 2, p. 134.

Anritsu Wiltron

"A Digital Mobile Radio Transmitter Tester," No. 3, p. 118.

Antenna Research Associates Inc.

"An Antenna Analyzer Based on the RF Marking Principle," No. 12, p. 104.

APCOM Inc. and Celerity Systems Inc.

"Virtual Test Instruments Keep Pace with Advanced Communication Signals," No. 9, p. 146.

Communication Solutions Inc.

"A Low Cost Microwave Tuner," No. 7, p. 120.

Connecting Devices Inc.

"A Subminiature Push-on Connector for High Density Packaging," No. 8, p. 114.

DKD Instruments

"A PC-Based RF Spectrum Analyzer," No. 12, p. 114.

Dynatek International

"A Scribe and Break System for Wafer Processing," No. 2, p. 144.

EIP Microwave Inc.

"A Microwave Toolbox: Simultaneous Pulse Power and Frequency Measurement," No. 9, p. 154.

Electrodyne Systems Corp.

"A Multicorrelator IFM Receiver Measures Frequency and Amplitude from 80 to 320 MHz," No. 9, p. 166.

Focus Microwaves Inc.

"Coaxial TRL Calibration Kits for Network Analyzers up to 40 GHz," No. 10, p. 160.

Giga-tronics Inc.

"The Universal Sweeper," No. 5, p. 116.

Hittite Microwave Corp.

"5 to 20 GHz GaAs MMIC Mixers," No. 4, p. 268.

Huber + Suhner Inc.

"A 1.7 to 2.5 GHz Planar Antenna for Wireless Communication," No. 11, p. 132.

IFR Systems Inc.

"A Spectrum Analyzer with an Automatic Limits Test Function," No. 1, p. 141.

Inter-Continental Microwave

"A Universal Low Cost Solution to Automatic Testing," No. 6, p. 122.

Inter-Continental Microwave

"A Universal RF Probing System," No. 12, p. 110.

ITT GTC

"A 3 V RF Power Amplifier for AMPS," No. 4, p. 270.

M/A-COM Inc.

"Low Voltage Silicon Bipolar Transistors," No. 6, p. 126.

Maxtech Inc.

"C-Band Solid-State Power Amplifier System," No. 10, p. 166.

Microdyne Corp.

"A Compact, General Purpose Telemetry Receiver," No. 2, p. 138.

Micro Lambda Inc.

"YIG-tuned Filters Shrink Size to 1" Cubes," No. 6, p. 120.

Phase IV Systems Inc.

"A 64-Bit Parallel-to-Serial Converter," No. 4, p. 272.

RF Micro-Devices

"Low Cost GaAs RFIC Amplifiers," No. 9, p. 164.

Rogers Corp.

"Circuit Material for Commercial High Frequency Applications," No. 3, p. 116.

[Continued on page 102]

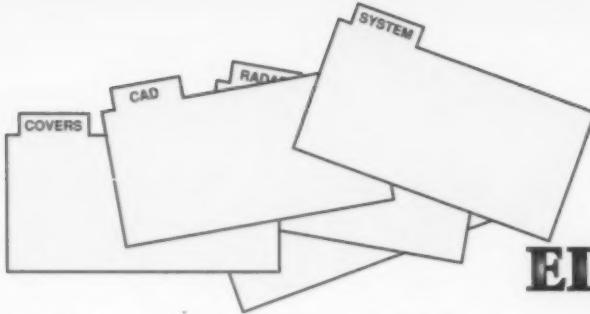
CABLE ASSEMBLIES FOR MICROWAVE & ELECTRONICS INDUSTRIES



- Low Loss
- High Performance
- Flexible
- Semi-Rigid
- RF & Microwave Cable Assemblies



CHARLES E. GILLMAN CO.
907 E. Frontage Road • Rio Rico, AZ 85648
(602) 281-1141 • Fax: (602) 281-1372



EDITORIAL INDEX

Rogers Corp.

"A Temperature Stable Microwave Laminate for Microstrip Patch Antenna Applications," No. 11, p. 130.

Seavey Engineering Associates Inc.

"An Inmarsat Standard M High Gain Antenna," No. 10, p. 164.

Sivers Imra AB

"A 16 GHz Mini-YIG Oscillator/Subsystem," No. 2, p. 142.

ST Oelektron Corp.

"A 160 MHz Digital Frequency Discriminator," No. 9, p. 160.

StratEdge Corp.

"Low Cost Ceramic Packages for mm-Wave GaAs ICs," No. 8, p. 110.

Synergy Microwave Corp.

"Surface-Mount Modulators," No. 7, p. 128.

Synergy Microwave Corp.

"Shielded VCOs Offer Superior Phase Noise Performance," No. 9, p. 150.

Taconic Plastics Ltd.

"High Reliability Circuit Board Material for Microwave and High-Speed Digital Applications," No. 4, p. 264.

Wiltron Co.

"Millimeter-Wave Reflectometers Extend High Accuracy Scalar Analysis to 110 GHz," No. 5, p. 112.

Z-Communications Inc.

"The Smallest Personal Communication Systems Voltage-Controlled Oscillator," No. 1, p. 110.

1994 MTT-S CONFERENCE

Bashore, Frank and Christine Blanchard

"Attending the Conference," No. 4, p. 30.

Bashore, Frank and Christine Blanchard

"Results Are In: 1994 MTT-S Symposium – Successful and Well Attended," No. 8, p. 74.

Callahan, Julie

"San Diego: Fun in the Sun," No. 4, p. 44.

Parker, Don

"San Diego: Site of Waves and Microwaves," No. 4, p. 26.

Technical Program, No. 4, p. 60.

Exhibitors' List, No. 4, p. 140.

Exhibition Floor Plan, No. 4, p. 144.

Exhibition Guide, No. 4, p. 146.

COMMERCIAL APPLICATIONS SERIES

Honcharenko, W., H.L. Bertoni and J. Dalling
"Mechanisms Governing Wireless Propagation Between Different Floors in Buildings," No. 2, p. 24.

Howe, Jr., Harlan and Christine Blanchard

"Wireless Technology for Automobile Theft Prevention," No. 1, p. 24.

Jacobson, Mark D., Leonard S. Fedor,

Duane A. Hazen, William B. Madsen, Michael H. Francis and Douglas P. Kremer
"A Dual Frequency mm-Wave Radiometer Antenna for Airborne Remote Sensing of Atmosphere and Ocean," No. 9, p. 24.

Joseph, Philip J., John C. Joseph,

Dennis P. Glynn, III and Thomas O. Perkins, III
"A Portable Vector Reflectometer and its Application for Thickness and Permittivity Measurements," No. 12, p. 84.

Kermarrec, C., T. Tewksbury, G. Dawe,

R. Baines, B. Meyerson, D. Harame and M. Gilbert
"New Application Opportunities for SiGe HBTs," No. 10, p. 22.

LIGHTWAVE SERIES

Armendariz, Marcelino G., Vincent M. Hietala and David R. Myers

"High Speed Optoelectronics," No. 6, p. 64.

Bruun, M., U. Gliese, T.N. Nielsen, A.K. Petersen and K.E. Stubkjær

"A 2 to 10 GHz GaAs MMIC Optoelectronic Phase Detector for Optical Microwave Signal Generators," No. 8, p. 94.

Goutzoulis, Akis, Ken Davies, John Zomp, Peter Hrycak and Andy Johnson

"A Hardware-Compressive Fiber-Optic True Time Delay Steering System for Phased-Array Antennas," No. 9, p. 126.

Taylor, Lyle H.

"A Concept for Open Path Air Pollution Monitoring," No. 2, p. 64.

WIRELESS SUPPLEMENT

Frieden, Rob

"Satellite-based Personal Communications Services," No. 1, p. 78.

Larson, David

"Wireless Technology: How Test Fits In," No. 1, p. 63.

Z-Communications

"The Smallest Personal Communication Systems Voltage-Controlled Oscillator," No. 1, p. 110.

Wireless Exhibition and Symposium

Product Showcase, No. 1, p. 88.

Technical Program, No. 1, p. 103.

Exhibitors' List, No. 1, p. 108.

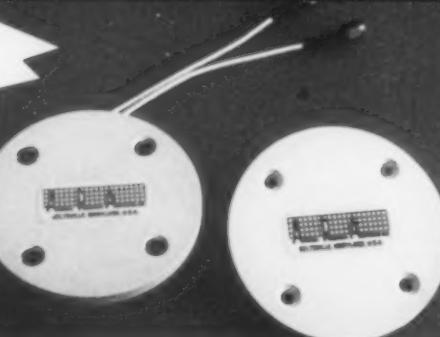
INTELCOM '94

MTT-S Topical Congress, No. 10, p. 126.

Technical Program, No. 10, p. 132.

FLAT PANEL ANTENNAS

NEW!



- ♦ WIRELESS LAN
- ♦ GPS
- ♦ PCS (Blocks A - G)
- ♦ RADAR
- ♦ COMMUNICATIONS
- ♦ OTHERS

We offer a full range of Transmit/Receive antennas and accessories from 100 Hz to 40 GHz. For more information please contact:



**ANTENNA
RESEARCH**

11317 Frederick Avenue, Beltsville, MD 20705-2088
TEL: (301) 937-8888 • FAX: (301) 937-2796

CIRCLE 8 ON READER SERVICE CARD

